

SEQUENCE LISTING

SEQ ID NO: 1

LENGTH: 524

TYPE: amino acid

TOPOLOGY: linear

KIND: peptide

SEQUENCE

Met	Asn	Leu	His	Val	Val	Lys	Trp	Lys	Leu	Ser	Val	Val	Ser	Val	Leu	5	10	15
Ile	Thr	Leu	Tyr	Tyr	Ser	His	Thr	Val	Ala	Leu	Ser	Leu	Lys	Glu	His	20	25	30
Leu	Ala	Asp	Cys	Leu	Glu	Asp	Lys	Asp	Tyr	Asp	Thr	Leu	Leu	Gln	Thr	35	40	45
Leu	Asp	Asn	Gly	Leu	Pro	His	Ile	Asn	Thr	Ser	His	His	Val	Val	Ile	50	55	60
Val	Gly	Ala	Gly	Met	Ala	Gly	Leu	Thr	Ala	Ala	Lys	Leu	Leu	Gln	Asp	65	70	75
Ala	Gly	His	Thr	Val	Thr	Ile	Leu	Glu	Ala	Asn	Asp	Arg	Val	Gly	Gly	81	85	90
Arg	Val	Glu	Thr	Tyr	Arg	Asn	Glu	Lys	Glu	Gly	Trp	Tyr	Ala	Glu	Met	100	105	110
Gly	Ala	Met	Arg	Ile	Pro	Ser	Ser	His	Arg	Ile	Val	Gln	Trp	Phe	Val	115	120	125
Lys	Lys	Leu	Gly	Val	Glu	Met	Asn	Glu	Phe	Val	Met	Thr	Asp	Asp	Asn	130	135	140
Thr	Phe	Tyr	Leu	Val	Asn	Gly	Val	Arg	Glu	Arg	Thr	Tyr	Val	Val	Gln	145	150	155
Glu	Asn	Pro	Asp	Val	Leu	Lys	Tyr	Asn	Val	Ser	Glu	Ser	Glu	Lys	Gly	165	170	175
Ile	Ser	Ala	Asp	Asp	Leu	Leu	Asp	Arg	Ala	Leu	Gln	Lys	Val	Lys	Glu	180	185	190
Glu	Val	Glu	Ala	Asn	Gly	Cys	Lys	Ala	Ala	Leu	Glu	Lys	Tyr	Asp	Arg	195	200	205
Tyr	Ser	Val	Lys	Glu	Tyr	Leu	Lys	Glu	Glu	Gly	Gly	Leu	Ser	Pro	Gly	210	215	220
Ala	Val	Arg	Met	Ile	Gly	Asp	Leu	Leu	Asn	Glu	Gln	Ser	Leu	Met	Tyr	225	230	235
Thr	Ala	Leu	Ser	Glu	Met	Ile	Tyr	Asp	Gln	Ala	Asp	Val	Asn	Asp	Ser	245	250	255
Val	Thr	Tyr	His	Glu	Val	Thr	Gly	Gly	Ser	Asp	Leu	Leu	Pro	Glu	Ala	260	265	270
Phe	Leu	Ser	Val	Leu	Asp	Val	Pro	Ile	Leu	Leu	Asn	Ser	Lys	Val	Lys	275	280	285

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SEQ ID NO: 2
 LENGTH: 1575
 TYPE: nucleic acid
 NUMBER OF CHAIN: single strand
 TOPOLOGY: linear
 KIND: cDNA to mRNA
 SEQUENCE

ATG AAT CTG CAT GTG GTG AAA TGG AAA TTA TCT GTT GTC AGT GTG CTG	48
Met Asn Leu His Val Val Lys Trp Lys Leu Ser Val Val Ser Val Leu	
5 10 15	
ATC ACA TTG TAC TAC AGT CAC ACT GTT GCT CTC AGC CTG AAG GAA CAT	96
Ile Thr Leu Tyr Tyr Ser His Thr Val Ala Leu Ser Leu Lys Glu His	
20 25 30	
CTG GCT GAT TGT CTT GAA GAC AAA GAC TAT GAC ACG CTG CTG CAG ACT	144
Leu Ala Asp Cys Leu Glu Asp Lys Asp Tyr Asp Thr Leu Leu Gln Thr	
35 40 45	
CTG GAT AAC GGT CTT OCA CAC ATT AAC ACG TCT CAT CAT GTG GTT ATA	192
Leu Asp Asn Gly Leu Pro His Ile Asn Thr Ser His His Val Val Ile	
50 55 60	
GTC GGA GCT GGC ATG GOC GGA CTG ACG GCG GOC AAG TTA CTG CAA GAC	240
Val Gly Ala Gly Met Ala Gly Leu Thr Ala Ala Lys Leu Leu Gln Asp	
65 70 75 80	
GCA GGA CAC ACG GTA ACC ATA TTG GAG GCT AAT GAT CGT GTT GGA GGA	288
Ala Gly His Thr Val Thr Ile Leu Glu Ala Asn Asp Arg Val Gly Gly	
81 85 90 95	
CGT GTG GAG AOC TAC AGG AAT GAA AAA GAA GGC TGG TAT GCT GAA ATG	336
Arg Val Glu Thr Tyr Arg Asn Glu Lys Glu Gly Trp Tyr Ala Glu Met	
100 105 110	
GGA GCT ATG AGG ATC OCA AGC TCT CAC GCG ATC GTC CAG TGG TTT GTC	384
Gly Ala Met Arg Ile Pro Ser Ser His Arg Ile Val Gln Trp Phe Val	
115 120 125	
AAA AAG CTT GGG GTC GAG ATG AAT GAG TTC GTC ATG ACT GAT GAC AAC	432
Lys Lys Leu Gly Val Glu Met Asn Glu Phe Val Met Thr Asp Asp Asn	
130 135 140	
AOC TTT TAC CTG GTT AAT GGG GTG CGG GAG AGG ACA TAT GTT GTT CAA	480
Thr Phe Tyr Leu Val Asn Gly Val Arg Glu Arg Thr Tyr Val Val Gln	
145 150 155 160	
GAA AAC OCT GAT GTC CTG AAG TAC AAC GTG TCA GAA AGC GAG AAG GGA	528
Glu Asn Pro Asp Val Leu Lys Tyr Asn Val Ser Glu Ser Glu Lys Gly	
165 170 175	

ATT TCA GCC GAT GAT CTG CTA GAT CGA GCT TTG CAG AAG GTG AAA GAG	576
Ile Ser Ala Asp Asp Leu Leu Asp Arg Ala Leu Gln Lys Val Lys Glu	
180 185 190	
GAA GTG GAA GCA AAT GGT TGT AAA GCT GCA CTG GAA AAA TAC GAC CGC	624
Glu Val Glu Ala Asn Gly Cys Lys Ala Ala Leu Glu Lys Tyr Asp Arg	
195 200 205	
TAT TCT GTG AAG GAG TAT CTG AAA GAA GAA GGT GGT TTG AGT OCA GGA	672
Tyr Ser Val Lys Glu Tyr Leu Lys Glu Glu Gly Gly Leu Ser Pro Gly	
210 215 220	
GCA GTG AGG ATG ATT GGA GAC CTG CTG AAT GAA CAG AGC CTC ATG TAC	720
Ala Val Arg Met Ile Gly Asp Leu Leu Asn Glu Gln Ser Leu Met Tyr	
225 230 235 240	
ACA GCG CTG AGT GAG ATG ATC TAC GAC CAG GCT GAC GTC AAT GAC AGT	768
Thr Ala Leu Ser Glu Met Ile Tyr Asp Gln Ala Asp Val Asn Asp Ser	
245 250 255	
GTC ACG TAT CAT GAA GTG ACG GGT GGA TCA GAT CTT CTT OOC GAA GCT	816
Val Thr Tyr His Glu Val Thr Gly Gly Ser Asp Leu Leu Pro Glu Ala	
260 265 270	
TTT CTT TCT GTC CTG GAT GTC OOC ATC CTC TTA AAC TOC AAA GTC AAA	864
Phe Leu Ser Val Leu Asp Val Pro Ile Leu Leu Asn Ser Lys Val Lys	
275 280 285	
CAC ATC AGG CAG TCA GAT AAA GGT GTA ATC GTG TCA TAC CAG ACA GGC	912
His Ile Arg Gln Ser Asp Lys Gly Val Ile Val Ser Tyr Gln Thr Gly	
290 295 300	
AAT GAG TOC TCT TTG ATG GAC CTT TCT GCT GAC ATT GTT CTG GTA ACA	960
Asn Glu Ser Ser Leu Met Asp Leu Ser Ala Asp Ile Val Leu Val Thr	
305 310 315 320	
ACC ACA GGC AAA GCA GGC CTC TTC ATA GAC TTT GAT CCA OCT CTC TOC	1008
Thr Thr Ala Lys Ala Ala Leu Phe Ile Asp Phe Asp Pro Pro Leu Ser	
325 330 335	
ATC AGT AAG ATG GAG GGC CTC CGG TCA GTC CAC TAT GAC AGC TOC ACT	1056
Ile Ser Lys Met Glu Ala Leu Arg Ser Val His Tyr Asp Ser Ser Thr	
340 345 350	
AAA ATC CTC CTC ACC TTT CGC GAT AAG TTC TGG GAG GAC GAT GGC ATC	1104
Lys Ile Leu Leu Thr Phe Arg Asp Lys Phe Trp Glu Asp Asp Gly Ile	
355 360 365	
CGA GGA GGC AAG AGC ATT ACC GAT GGA OCT TCT CGT TAC ATC TAC TAT	1152
Arg Gly Gly Lys Ser Ile Thr Asp Gly Pro Ser Arg Tyr Ile Tyr Tyr	
370 375 380	
OOC AGC CAC AGT TTC CAT ACA AAT GAG ACC ATT GGA GTC CTC CTG GCA	1200
Pro Ser His Ser Phe His Thr Asn Glu Thr Ile Gly Val Leu Leu Ala	
385 390 395 400	

TOC TAC ACT TGG TCT GAC GAG TOC CTC CTC TTC CTG GGT GCA AGC GAT	1248
Ser Tyr Thr Trp Ser Asp Glu Ser Leu Leu Phe Leu Gly Ala Ser Asp	
405 410 415	
GAA GAG CTG AAA GAG CTG GOC CTG AGA GAT CTG GCA AAA ATC CAC GGT	1296
Glu Glu Leu Lys Glu Leu Ala Leu Arg Asp Leu Ala Lys Ile His Gly	
420 425 430	
GAG CAA GTC TGG GAT AAG TOC ACG GGA GTC ATA GTG AAG AAG TGG AGC	1344
Glu Gln Val Trp Asp Lys Cys Thr Gly Val Ile Val Lys Lys Trp Ser	
435 440 445	
GCT GAT OCT TAC AGC TTG GGC GOC TTC GCT CTC TTC ACA CCC TAC CAA	1392
Ala Asp Pro Tyr Ser Leu Gly Ala Phe Ala Leu Phe Thr Pro Tyr Gln	
450 455 460	
CAC TTG GAG TAC GCT CAG GAG CTC TTC AGC AGC GAG GGC AGG GTG CAC	1440
His Leu Glu Tyr Ala Gln Glu Leu Phe Ser Ser Glu Gly Arg Val His	
465 470 475 480	
TTT GCT GGT GAA CAC ACA GOC TTC CCT CAT GCT TGG ATC GAA ACG TCT	1488
Phe Ala Gly Glu His Thr Ala Phe Pro His Ala Trp Ile Glu Thr Ser	
485 490 495	
ATG AAA TCT GCA ATC AGG GCT GCT ACA AAT ATT AAT AAA GTG GCA AAT	1536
Met Lys Ser Ala Ile Arg Ala Ala Thr Asn Ile Asn Lys Val Ala Asn	
500 505 510	
GAA GAG TCA ACT ATA GAA CAT ACA AAA GAT GAG CTG TAG	1575
Glu Glu Ser Thr Ile Glu His Thr Lys Asp Glu Leu	
515 520	